

CLAIMS

1. Device for securing a pallet stone to an escapement pallet including at least one housing provided for receiving said pallet stone, characterized in that the pallet portion including said housing is made of a shape memory alloy able to undergo a reversible transformation from an austenitic crystallographic phase to a martensitic crystallographic phase.

2. Securing device according to claim 1, characterized in that the pallet portion including said housing does not grip the pallet stone in a substantial manner when said pallet portion is in the martensitic crystallographic phase such that the pallet stone can be moved in said housing, and in that the pallet portion including said housing securely grips the pallet stone when said pallet portion is in the austenitic crystallographic phase while the pallet portion is at the ambient temperature.

3. Securing device according to claim 1, characterized in that the pallet portion including said housing does not grip the pallet stone in a substantial manner when said pallet portion is in the austenitic crystallographic phase such that the pallet stone can be moved in said housing, and in that the pallet portion comprising said housing securely grips the pallet stone when said pallet portion is in the martensitic crystallographic phase while the pallet portion is at the ambient temperature.

4. Device according to any of the claims, characterized in that the housing is delimited by jaws configured to be able to close in the direction of the housing.

5. Device according to claim 4, characterized in that a first jaw is fixed and one jaw is mobile between a first position called the loosened position in which the pallet stone can be introduced into the housing and moved therein, and a second position called the gripping position in which the jaws securely grip the pallet stone and immobilise the pallet stone in the housing.

6. Device according to claim 4 or 5, characterized in that a first jaw includes two flat, aligned gripping surfaces and in that a second jaw includes a gripping surface arranged substantially facing said two gripping surfaces of the first jaw.

7. Securing device according to any of the preceding claims, characterized in that said shape memory alloy is a nickel and titanium alloy.

8. Securing device according to any of the preceding claims, characterized in that it further includes a drop of adhesive extending over the pallet stone and the pallet in order to stabilise securing of the pallet stone on the pallet.

9. Method for securing a pallet stone to an escapement pallet including the steps of:

- providing a pallet stone and an escapement pallet including at least one housing for receiving said pallet stone, the pallet portion including said housing being made of a shape memory alloy able to undergo a reversible transformation from an austenitic crystallographic phase at ambient temperature to a martensitic crystallographic phase,
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- bringing said pallet portion into the martensitic crystallographic phase;
- introducing the pallet stone into the housing;
- bringing said pallet portion into the austenitic crystallographic phase in order to grip the pallet stone in said housing.
- 10 10. Method for securing a pallet stone to an escapement pallet including the steps of:
 - providing a pallet stone and an escapement pallet including at least one housing for receiving said pallet stone, the pallet portion including said housing being made of a shape memory alloy able to undergo a reversible transformation from a
15 martensitic crystallographic phase at ambient temperature to an austenitic crystallographic phase,
 - bringing said pallet portion into the austenitic crystallographic phase;
- introducing the pallet stone into the housing;
- bringing said pallet portion into the martensitic crystallographic phase in order
20 to grip the pallet stone in said housing.
- 11. Method for securing a pallet stone according to claim 9 or 10, characterized in that it further includes a step of applying a drop of adhesive extending over the pallet stone and the pallet in order to stabilise the securing of the pallet stone to the pallet after the step of gripping the pallet stone.